CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS

NEW COURSE PROPOSAL

PROGRAM AREAS _____BIOLOGICAL AND PHYSICAL SCIENCES, MATH AND COMPUTER SCIENCE

1. **Catalog Description of the Course.** *[Include the course prefix, number, full title, and units. Provide a course narrative including prerequisites and corequisites. If any of the following apply, include in the description: Repeatability (May be repeated to a maximum of ___ units); time distribution (Lecture ___ hours, laboratory ___ hours); non-traditional grading system (Graded CR/NC, ABC/NC). Follow accepted catalog format.]*

COMP 420. DATABASE THEORY AND DESIGN (3)

Three hours of lecture in the lab per week.
Prerequisite: COMP 350.
Topics include: database structure including: structure definition, data models, semantics of relations, and operation on data models; database schemas: element definition, use and manipulation of the schema; elements of implementation.; algebra of relations on a database; hierarchical data bases. Discussion of information retrieval, reliability, protection and integrity of databases.

2. **Mode of Instruction.**

	Units	**Hours per Unit**	**Benchmark Enrollment**
Lecture	___3_____	___1_____	__24_____
Seminar	_____	_____	_____
Laboratory	_____	_____	_____
Activity	_____	_____	_____

3. **Justification and Learning Objectives for the Course.** (Indicate whether required or elective, and whether it meets University Writing, and/or Language requirements) *[Use as much space as necessary]*

The course is a required course for Computer Science majors according to accreditation guidelines.

Through this course, students will be able to

1. Identify the components of a database system.
2. Represent information in the form of tables, records, and fields.
3. Construct Entity Relation diagrams.
4. Analyze and implement basic sql queries.
5. Integrate a database with a programming language.
6. Identify and represent system constraints.
7. Organize and express ideas clearly and convincingly in oral and written forms.

This course is not designed to satisfy the University Writing or Language requirements.

4. **Is this a General Education Course** **YES** **NO**
If Yes, indicate GE category:

A (English Language, Communication, Critical Thinking)	
B (Mathematics & Sciences)	
C (Fine Arts, Literature, Languages & Cultures)	
D (Social Perspectives)	
E (Human Psychological and Physiological Perspectives)	

5. **Course Content in Outline Form.** *[Be as brief as possible, but use as much space as necessary]*

1. Components of a Database System.

2. Representation of Constraints.
3. Tables, Records and Fields.
4. Integrity Constraints.
5. Entity Relation (ER) Diagrams.
6. Table Unions and Joins.

6. References. *[Provide 3 - 5 references on which this course is based and/or support it.]*

F*undamentals of Database Systems,* Ramez Elmasri , Addison Wesley, 2002, 0-201-74153-9

7. List Faculty Qualified to Teach This Course.

All Computer Science faculty.

8. Frequency.

a. Projected semesters to be offered: Fall ___X__ Spring _X____ Summer ___X__

9. New Resources Required.

a. Computer (data processing), audio visual, broadcasting needs, other equipment

Use of existing computer lab.

b. Library needs

none

c. Facility/space needs

none

10. Consultation.

Attach consultation sheet from all program areas, Library, and others (if necessary)

11. If this new course will alter any degree, credential, certificate, or minor in your program, attach a program modification.

_____

Proposer of Course Date